Mumbai University

Question Paper

[IDOL – Revised Course]

(May – 2018)

Internet Technologies

Time: 3 Hours **Total Marks:** 100

N.B.: **(1)** *All Question are Compulsory.*
(2) *Make Suitable Assumptions Wherever Necessary And State The Assumptions Made.*
(3) *Answer To The Same Question Must Be Written Together.*
(4) *Number To The Right Indicates Marks.*
(5) *Draw Neat Labeled Diagrams Wherever Necessary.*
(6) *Use of Non – Programmable Calculator is allowed.*

Q.1 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

(A)	Explain input module of TCP.	**(5)**
(B)	Write a note on various links available in OSPF.	**(5)**
(C)	Explain IPv6 base header format.	**(5)**
(D)	Draw and explain DHCP packet format.	**(5)**

Q.2 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A)	Write a note on NAT (network address translation)	**(5)**
(B)	Explain role of transport layer.	**(5)**
(C)	Explain subnetting with example.	**(5)**
(D)	State and explain Fragmentation module of IP Package.	**(5)**
(E)	Explain strategies for transmission from IPv4 to IPv6.	**(5)**
(F)	Write a note on Classless addressing.	**(5)**

Q.3 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A)	Draw and explain packet format of ARP.	**(5)**
(B)	Draw and explain general format of ICMP messages.	**(5)**
(C)	Write a note on Inefficiency in Mobile IP.	**(5)**
(D)	Explain BGP messages.	**(5)**
(E)	Explain two-node instability in RIP.	**(5)**
(F)	Explain various types of LSA in OSPF.	**(5)**

Q.4 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A)	State and explain services of UDP.	**(5)**
(B)	Write and Explain pseudo code of input module of UDP.	**(5)**
(C)	Explain byte number, sequence number, acknowledgment number used in TCP.	**(5)**
(D)	Explain Half close in TCP.	**(5)**
(E)	Explain Association establishment of SCTP.	**(5)**
(F)	Explain SACK chunk of SCTP.	**(5)**

Q.5 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A)	Draw and explain DHCP client transition diagram.	**(5)**
(B)	Explain recursive and iterative resolution in DNS.	**(5)**
(C)	Explain the concept of NVT and NVT character set.	**(5)**
(D)	Explain in brief components of SSH.	**(5)**
(E)	Explain in brief communication over control connection & data connection in FTP.	**(5)**
(F)	Explain RRQ and WRQ messages of TFTP.	**(5)**

TURN OVER

Q.6 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A) Explain in detail static, dynamic and active web documents. **(5)**
(B) Explain persistence and nonpersistent connection of HTTP. **(5)**
(C) Write a note on user agent of email system. **(5)**
(D) Explain in detail the role of POP3 and IMAP4 in email system. **(5)**
(E) Explain three approaches of stream stored audio/video. **(5)**
(F) Draw and explain RTP Packet format. **(5)**

Q.7 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A) Explain in detail constructors used to create DatagramPacket. **(5)**
(B) Write TCP socket program that will give factorial of a number. **(5)**
(C) Explain ServerSocket class with its methods and properties. **(5)**
(D) Explain how UDP socket programming works? **(5)**
(E) Write UDP socket program that will display whether a string is palindrome or not. **(5)**
(F) Write a Client/server application where a client contacts the server to obtain random number. Use Socket and Server Socket. **(5)**